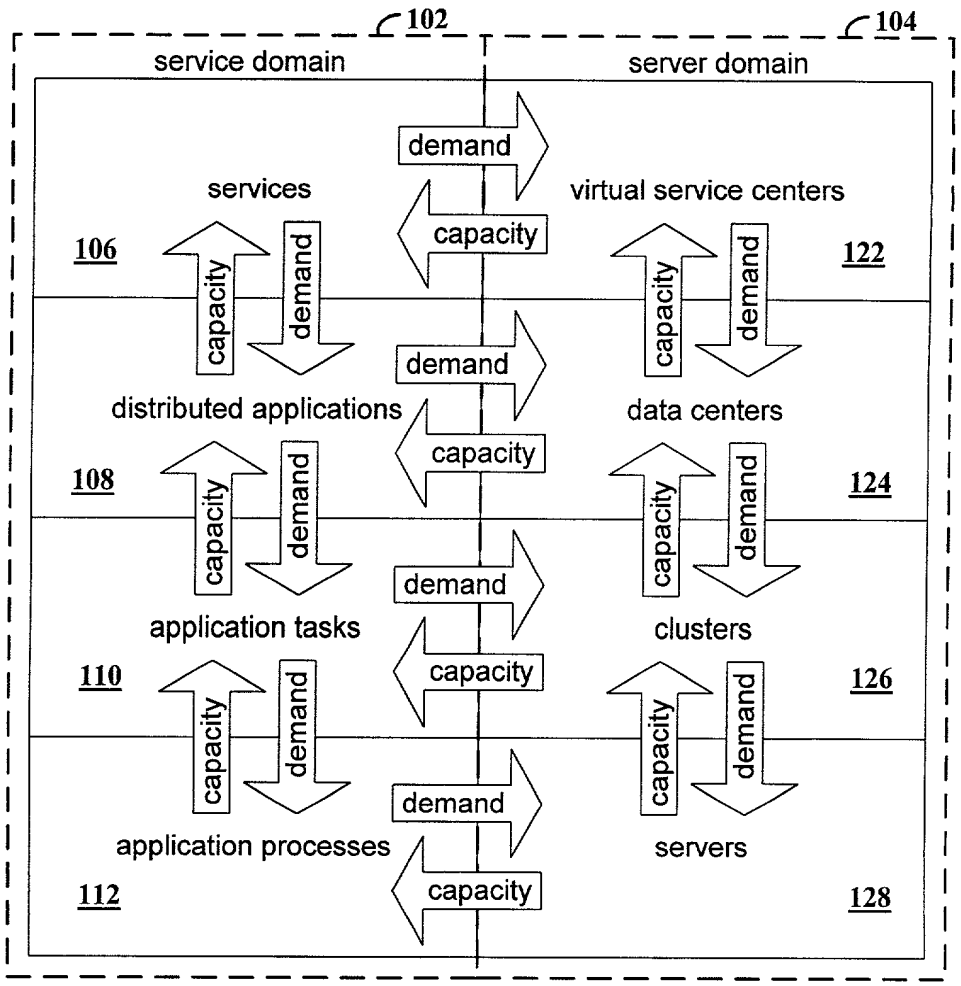
102
104
service domain
server domain
demand
capacity
services
virtual service centers
106
122
capacity
demand
capacity
demand
demand
capacity
distributed applications
data centers
108
124
capacity
demand
capacity
demand
demand
capacity
application tasks
clusters
110
126
capacity
demand
capacity
demand
demand
capacity
application processes
servers
112
128

FIG. 1

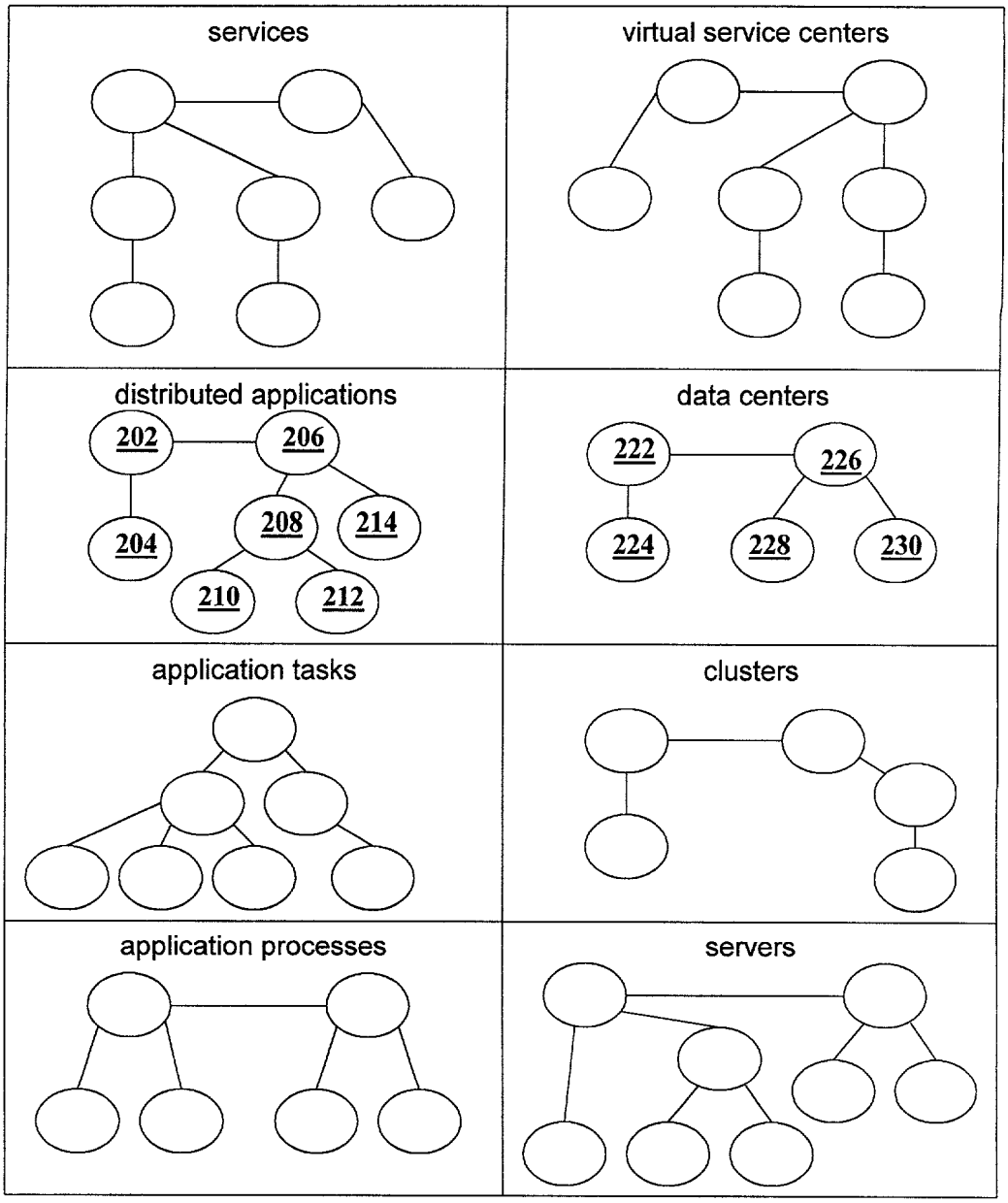
services
virtual service centers
distributed applications
202
206
204
208
214
210
212
data centers
222
226
224
228
230
application tasks
clusters
application processes
servers

FIG. 2

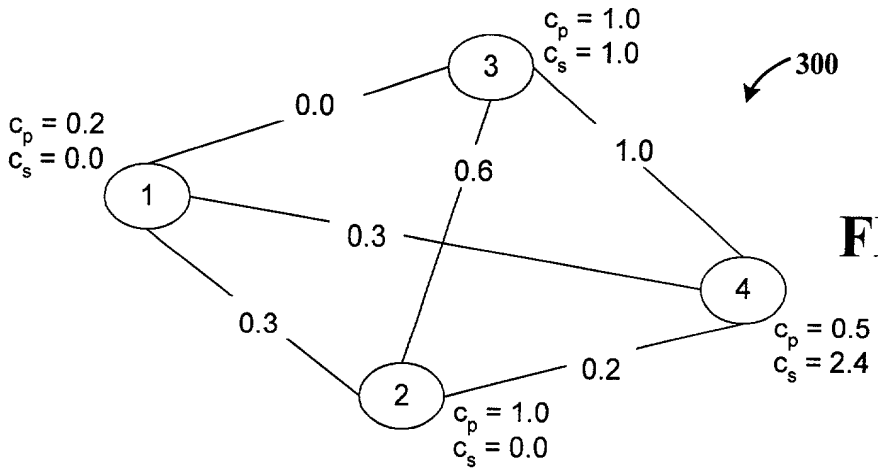

FIG. 3A

nodes

1
2
3
4

$$C_p = \begin{pmatrix} 0.2 \\ 1.0 \\ 1.0 \\ 0.5 \end{pmatrix} \quad C_s = \begin{pmatrix} 0.0 \\ 0.0 \\ 1.0 \\ 2.4 \end{pmatrix} \quad C_t = \begin{array}{c} \begin{matrix} 1 & 2 & 3 & 4 \end{matrix} \\ \begin{pmatrix} - & - & - & - \\ 0.3 & - & - & - \\ 0.0 & 0.6 & - & - \\ 0.3 & 0.2 & 1.0 & - \end{pmatrix} \end{array}$$

FIG. 3B

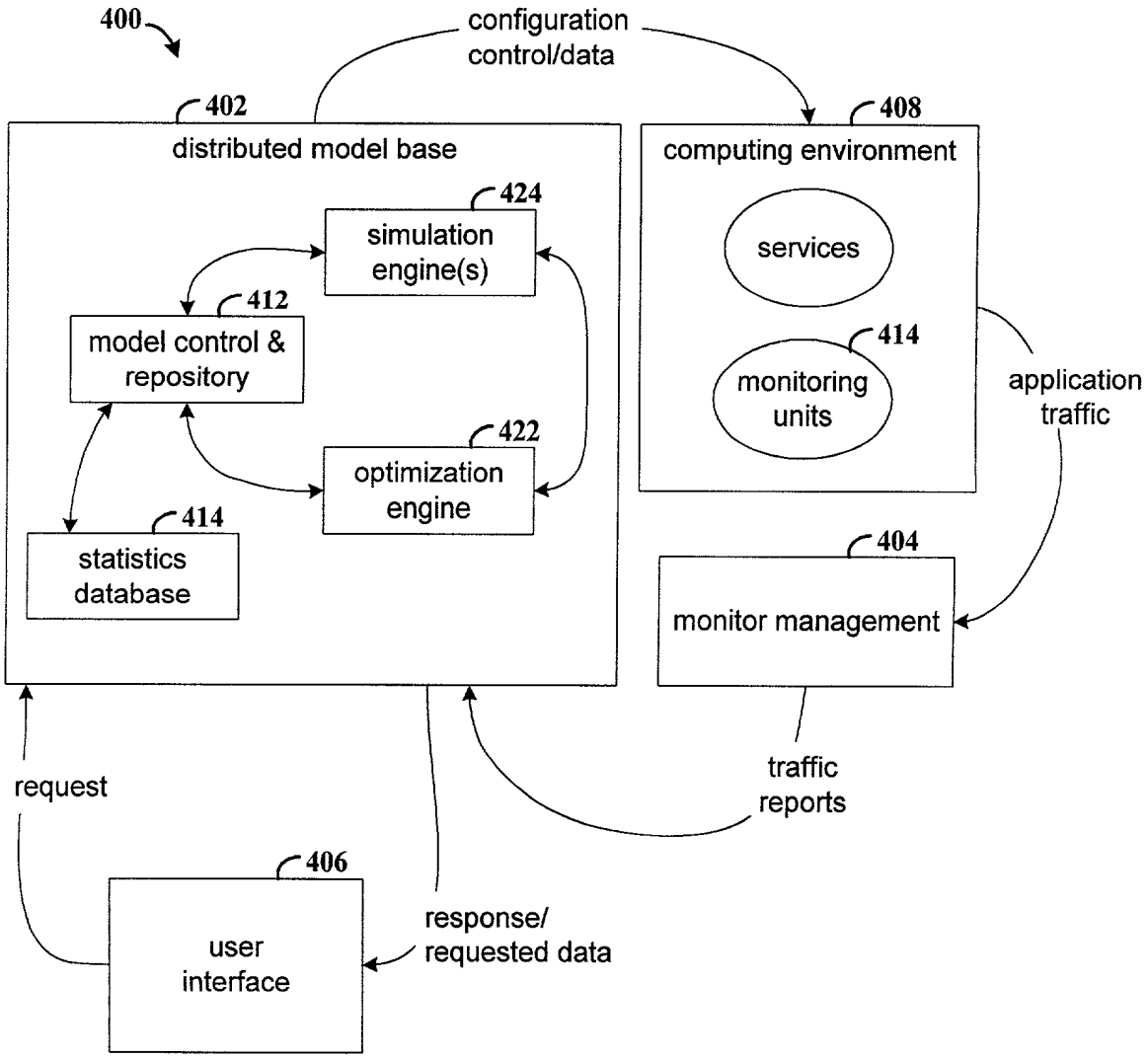
400
configuration
control/data
402
distributed model base
424
simulation
engine(s)
412
model control &
repository
422
optimization
engine
414
statistics
database
408
computing environment
services
414
monitoring
units
application
traffic
404
monitor management
request
traffic
reports
406
user
interface
response/
requested data

FIG. 4

Toggle Strikeout

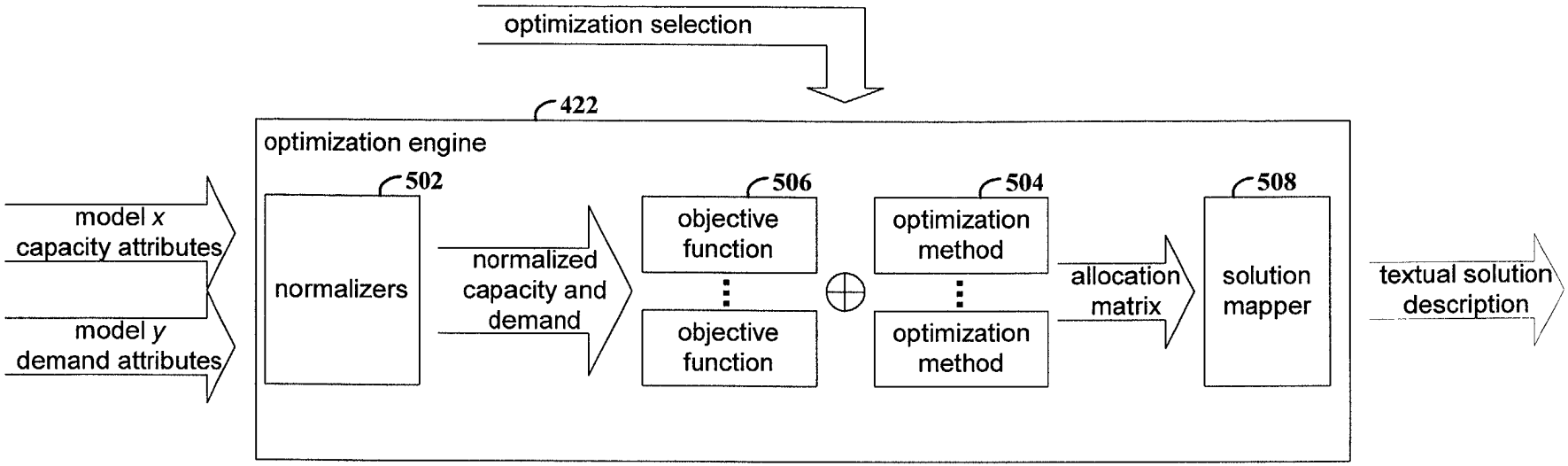

FIG. 5